Montana Comprehensive Assessment System (MontCAS, Phase 2)

Criterion-Referenced Test (CRT)

COMMON ITEM RELEASE
GRADE 8

OPI

OFFICE OF PUBLIC INSTRUCTION

General Directions

This test contains six sessions: three in reading and three in mathematics. The sessions are made up of multiple-choice questions and questions for which you must show your work or write out your answers. Write your answers to all of the questions in your Student Response Booklet. For the reading parts of the test, read each selection before answering the questions.

For each multiple-choice question, choose the best answer. Fill in the bubble in your Student Response Booklet that corresponds to your answer choice for that question.

Some questions ask you to show your work or to write out your answers. Write your answers to these questions in the spaces provided in your Student Response Booklet. Your answers must fit in the spaces provided. Any part of an answer outside the box might not be scored.

Be sure to answer all parts of each question, and to answer completely. For example, if a question asks you to explain your reasoning or show your work, be sure to do so. You can receive points for a partially correct answer, so try to answer every question.

Reading
Session 1

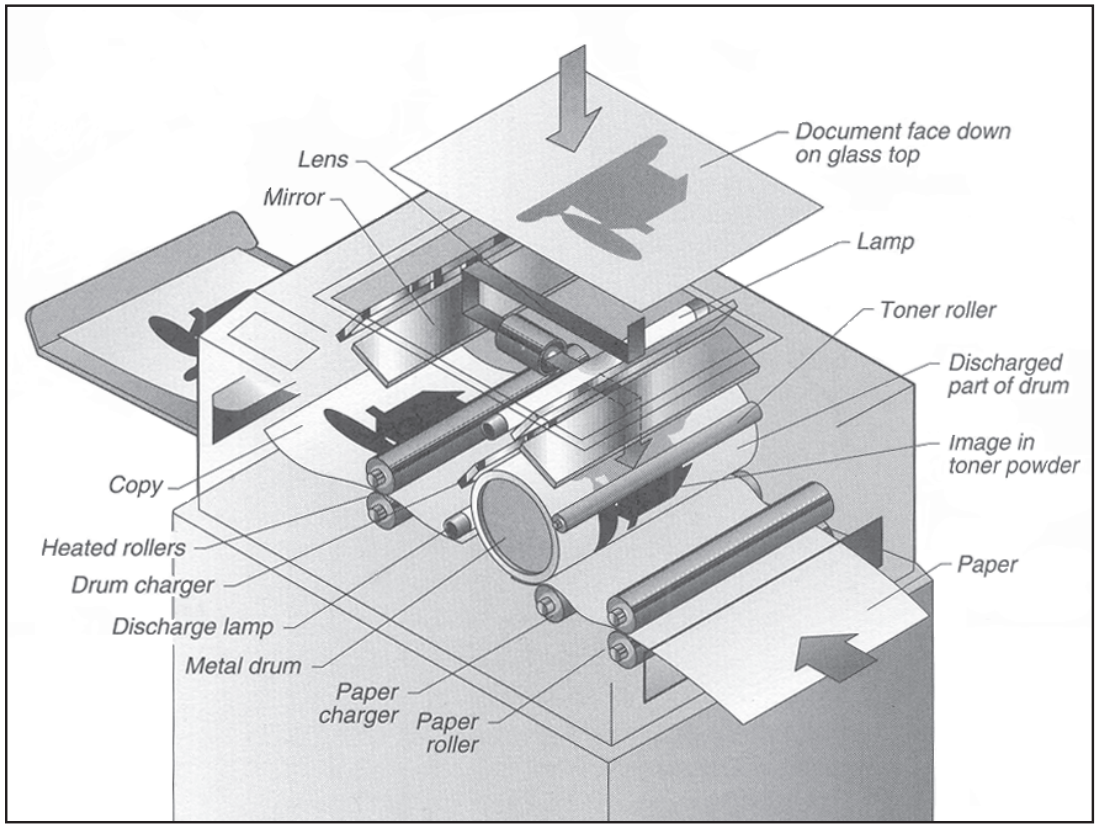
This test session includes reading selections, multiple-choice questions, and a question for which you must write out your answer. After you read each selection, answer the questions about it in the spaces provided in your Student Response Booklet. You may not use a dictionary or any other reference tool during this session.

Have you ever wondered how photocopiers work? Read this article to learn about the process by which copies are made and then answer the questions that follow.

How Photocopiers Work

Phillis Engelbert

To make a photocopy, the original document is laid face down on the machine's glass window. The start button is pushed and a bright light scans the document. The white areas of the document are reflected by mirrors and focused by lenses onto a rotating, metal drum (the dark areas of the document do not reflect light). The drum is coated with an electrically conductive, light-sensitive substance, such as selenium. At the beginning of the process, the drum is charged with static electricity, which gives it a negative charge. As the lamp scans the image, the drum turns. Wherever light is focused upon it, the drum loses its negative charge. The drum retains its charge beneath the dark areas of the image.



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A black powder called toner, which has a positive charge, is rolled onto the drum and sticks to areas with a negative charge. (Toner sticks to the drum in a similar way that dust sticks to a TV screen, which is also charged with static electricity.) In the process, a copy of the document, in toner, is created on the drum. As the drum rotates, it transfers the toner onto a sheet of negatively charged copy paper. The toner is fixed (made permanent) on the paper by the application of heat. Finally, the drum surface is cleaned and readied for reuse.

Color copies are made by the same process as black-and-white copies, except that four different toners are used: magenta (red-blue), cyan (blue-green), yellow, and black. The drum rotates four times in the process of making a color copy; a different color toner is applied each time. With each turn, the light from the document is filtered through a lens that corresponds in color to the toner. (When black toner is used, the light is not filtered through a colored lens.) Each of the four toner patterns are transferred to the same sheet of paper and the combination of patterns forms a full-color image.

See also: Printing

Sources

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Mark your answers to questions 1 through 5 in the section marked "Reading—Session 1" in your Student Response Booklet.

1. The root "duct" means "to lead." In the first paragraph, the word conductive means that substances such as selenium

   A. resist electricity.
   B. reflect light.
   C. carry electrical charges.
   D. create negative charges.

2. What is the **main** contribution the illustration makes to the article?

   A. It provides additional information.
   B. It helps in understanding the description.
   C. It provides practical advice.
   D. It explains how to make a photocopier.

3. Why is toner used in the copying process?

   A. It cleans the drum.
   B. It is sensitive to light.
   C. It sticks to the drum.
   D. It resists heat.

4. The publications that the author provides in the "Sources" section are **most likely**

   A. illustrated descriptions of photocopiers.
   B. where she found the information for the article.
   C. the names of people who helped to write the article.
   D. a complete list of printed information about photocopiers.

5. According to the information under "Sources," in what section of the library would you find the article "Mimeograph"?

   A. nonfiction
   B. technology
   C. science
   D. reference

Please go on to the next page.

Wil Newton's family moved from the city to a small cabin in the woods in northern Wisconsin. At first Wil was angry and upset about the move, but then he discovered a special place that changed his outlook. Read the passage to learn about this place and then answer the questions that follow.

The Island

Gary Paulsen

Wil loved riding early in the morning. Back in Madison he sometimes would get up just before dawn and fill his water bottle and take off out into the country on a forced hundred-kilometer ride—driving through the morning light, pumping in the mist, and listening to the birds sing, the end of night songs and the start of day songs.

This morning he awakened before dawn, or when the first light was beginning to gray up his bedroom window. Robins were singing, and sparrows and some doves were opening the day when Wil went into the kitchen. His parents were still asleep, and he tiptoed on his tennis shoes to keep from waking them. It was not unusual for him to go out early, and he scribbled a note on a piece of paper sack saying that he was biking and would be gone all day. He found some cans of food—one pineapple chunks, one can of stew—and an opener on the blade of a pocket knife, which he dropped into his pocket. He put a bowl of food down for Bob, who had now come out from under the sink but was still decidedly mad, and let the front screen close silently behind him.

2

His bike was leaning against the wall where he'd left it the night before. He pushed it out onto the road. Then he tied on the waist pack, threw a leg over the seat, toed the pedal clips up, and started down the road—into the sun, the new sun. He let the front wheel find the hard parts of the road and pedaled easily for a mile or so, sitting almost upright, the wind working through his hair.

After his legs loosened, he curved over and picked up the cadence and rode fast for another half mile. Then a large truck, a milk truck with a shiny stainless steel tank on the back, came up behind him, and he pulled over and let it go by—on the way to Susan's place to pick up milk, he figured.

4

The island was very strong in his mind now, calling him, pulling him. As soon as the milk truck passed, he picked up speed again and held it until he came around the shallow curve and saw the end of the lake, then the island.

Still in the mist, it sat in the mirrored water as if floating on the lake, floating in a sky land of water and fluffy clouds. Wil pulled the bike onto the trail and hid it in the brush. It took him a minute to tip the boat over and slide it into the water. Then he got the oars ready, put the pack down in the bow, turned the boat around, and began rowing. Halfway to the island he stopped, let the oars hang, and sat silently.

Ripples made by the boat widened across the glass of the surface and disappeared, leaving it smooth, gentle, still. *I am a painting*, he thought. *I can sit still this way and the boat is part of the water and I am part of the boat and the sky and I am a painting*. He closed his eyes for a moment and held his breath until no part of him moved, until the boat was completely still. Then he opened his eyes and saw the lake, and in back of the boat, in the new morning sun, a bass flicked the surface and left a perfect circle of a ripple that moved out and out. And he breathed it, breathed the word "perfect."

Please go on to the next page.

Mark your answers to questions 6 through 10 in the section marked "Reading—Session 1" in your Student Response Booklet.

6. What does the reader learn about Wil in paragraph 2?

   A. He likes doing unexpected things.
   B. He is considerate of other people.
   C. He is not very good at making plans.
   D. He does not like listening to other people.

7. In paragraph 4, what does the word cadence mean?

   A. sound
   B. pace
   C. wind
   D. road

8. When Wil thinks, "I am a painting," he means he is

   A. imagining a picture that he will paint.
   B. closely connected to his surroundings.
   C. as important as the water and sky.
   D. not moving in the water.

9. Based on the information in the passage, the **best** conclusion the reader can make about Wil is that he

   A. did not have very much in common with his parents.
   B. thought that the country life was boring.
   C. had never rowed out to the island before.
   D. enjoyed doing things by himself.

10. What is **most** important in this passage?

   A. Wil's reaction to the setting
   B. Wil's relationships with others
   C. the conflict within Wil
   D. the changes that Wil undergoes

Please go on to the next page.

Tracy Chevalier's novel Girl with a Pearl Earring *is about a young girl named Griet who lives in the Dutch city of Delft in the 1600s. Read this passage to learn what happens when Griet's family has some important visitors, and then answer the questions that follow.*

Girl with a Pearl Earring

Tracy Chevalier

My mother did not tell me they were coming. Afterwards she said she did not want me to appear nervous. I was surprised, for I thought she knew me well. Strangers would think I was calm. I did not cry as a baby. Only my mother would note the tightness along my jaw, the widening of my already wide eyes.

I was chopping vegetables in the kitchen when I heard voices outside our front door—a woman's, bright as polished brass, and a man's, low and dark like the wood of the table I was working on. They were the kind of voices we heard rarely in our house. I could hear rich carpets in their voices, books and pearls and fur.

I was glad that earlier I had scrubbed the front steps so hard.

My mother's voice—a cooking pot, a flagon—approached from the front room. They were coming to the kitchen. I pushed the leeks I had been chopping into place, then set the knife on the table, wiped my hands on my apron and pressed my lips together to smooth them.

My mother appeared in the doorway, her eyes two warnings. Behind her the woman had to duck her head because she was so tall, taller than the man following her.

All of our family, even my father and brother, were small.

The woman looked as if she had been blown about by the wind, although it was a calm day. Her cap was askew so that tiny blond curls escaped and hung about her forehead like bees which she swatted at impatiently several times. Her collar needed straightening and was not as crisp as it could be. She pushed her gray mantle* back from her shoulders, and I saw then that under her dark blue dress a baby was growing. It would arrive by the year's end, or before.

The woman's face was like an oval serving plate, flashing at times, dull at others. Her eyes were two light brown buttons, a color I had rarely seen coupled with blond hair. She made a show of watching me hard, but could not fix her attention on me, her eyes darting about the room.

"This is the girl, then," she said abruptly.

"This is my daughter, Griet," my mother replied. I nodded respectfully to the man and woman.

"Well. She's not very big. Is she strong enough?" As the woman turned to look at the man, a fold of her mantle caught the handle of the knife I had been using, knocking it off the table so that it spun across the floor.

The woman cried out.

"Catharina," the man said calmly. He spoke her name as if he held cinnamon in his mouth. The woman stopped, making an effort to quiet herself.

I stepped over and picked up the knife, polishing the blade on my apron before placing it back on the table. The knife had brushed against the vegetables. I set a piece of carrot back in its place.

The man was watching me, his eyes grey like the sea. He had a long, angular face, and his expression was steady, in contrast to his wife's, which flickered like a candle. He had no beard or moustache, and I was glad, for it gave him a clean appearance. He wore a black cloak over his shoulders, a white shirt, and a fine lace collar. His hat pressed into hair the red of brick washed by rain.

"What have you been doing here, Griet?" he asked.

I was surprised by the question but knew enough to hide it. "Chopping vegetables, sir. For the soup."

I always laid vegetables out in a circle, each with its own section like a slice of pie. There were five slices: red cabbage, onions, leeks, carrots, and turnips. I had used a knife edge to shape each slice, and placed a carrot disc in the center.

The man tapped his finger on the table. "Are they laid out in the order in which they will go into the soup?" he suggested, studying the circle.

*mantle: a cape or shawl

"No, sir." I hesitated. I could not say why I had laid out the vegetables as I did. I simply set them as I felt they should be, but I was too frightened to say so to a gentleman.

"I see you have separated the whites," he said, indicating the turnips and onions. "And then the orange and the purple, they do not sit together. Why is that?" He picked up a shred of cabbage and a piece of carrot and shook them like dice in his hand.

I looked at my mother, who nodded slightly.

"The colors fight when they are side by side, sir."

He arched his eyebrows, as if he had not expected such a response. "And do you spend much time setting out the vegetables before you make the soup?"

"Oh no, sir," I replied, confused. I did not want him to think I was idle.

From the corner of my eye I saw a movement. My sister, Agnes, was peering round the doorpost and had shaken her head at my response. I did not often lie. I looked down.

The man turned his head slightly and Agnes disappeared. He dropped the pieces of carrot and cabbage into their slices. The cabbage shred fell partly into the onions. I wanted to reach over and tease it into place. I did not, but he knew that I wanted to. He was testing me.

"That's enough prattle," the woman declared. Though she was annoyed with his attention to me, it was me she frowned at. "Tomorrow, then?" She looked at the man before sweeping out of the room, my mother behind her. The man glanced once more at what was to be the soup, then nodded at me and followed the women.

When my mother returned I was sitting by the vegetable wheel. I waited for her to speak. She was hunching her shoulders as if against a winter chill, though it was summer and the kitchen was hot.

"You are to start tomorrow as their maid. If you do well, you will be paid eight stuivers a day. You will live with them."

I pressed my lips together.

"Don't look at me like that, Griet," my mother said. "We have to, now your father has lost his trade."

Mark your answers to questions 11 through 21 in the section marked "Reading—Session 1" in your Student Response Booklet.

11. What point does Griet make about herself in the first paragraph?

    A. She has always been a good child.
    B. She is more sensitive than her mother.
    C. She has had a very dull life.
    D. She is able to hide her emotions.

12. Why did the visitors come to Griet's house?

    A. They were close friends of Griet's mother.
    B. They were visiting many houses in town looking for a maid.
    C. They were making final arrangements for hiring a maid.
    D. They were interested in the way Griet cooked.

Please go on to the next page.

13. What difference does Griet sense between the visitors and her own family?

A. The visitors are unfamiliar with kitchens.
B. The visitors have more wealth.
C. The visitors disagree with each other.
D. The visitors are very interested in food.

14. In paragraph 7, what does the word <u>askew</u> mean?

A. unusual
B. missing
C. heavy
D. crooked

15. Which word **best** describes the woman who came to visit Griet's family?

A. patient
B. withdrawn
C. critical
D. sympathetic

16. The man did not move the cabbage shred when it fell into the wrong slice, because he

A. was annoyed with Griet.
B. was not aware of where the shred had fallen.
C. was trying to see what Griet would do.
D. was impatient to leave the kitchen.

17. In paragraph 28, what does the word <u>prattle</u> mean?

A. dishonesty
B. nonsense
C. mystery
D. business

18. What is foreshadowed in paragraph 28?

A. Catharina may make Griet's job difficult.
B. Griet may learn to admire Catharina.
C. Griet's mother may decide not to send her to Catharina's.
D. Griet's mother may become Catharina's friend.

19. At the end of the passage, Griet says that her mother "was hunching her shoulders as if against a winter chill." What does this figure of speech tell the reader about the mother?

A. She is tired from entertaining the visitors.
B. She is unhappy that the visitors left.
C. She is sensitive to changes in temperature.
D. She is upset about what is going to happen.

Please go on to the next page.

20. Which sentence **best** describes the point of view in this passage?

    A. The main character is telling the story.
    B. The reader is watching events from the outside.
    C. The reader sees the thoughts of all the characters.
    D. The narrator keeps changing the point of view.

21. The passage is an example of

    A. fiction.
    B. fable.
    C. biography.
    D. autobiography.

Write your answer to question 22 in the space provided for it in your Student Response Booklet.

22. What kind of a person is Griet? Describe her personality, using details from the passage to support your answer.

Please STOP. Do not go on to the next page.

NO TEST MATERIAL
ON THIS PAGE

Reading
Session 2

This test session includes reading selections, multiple-choice questions, and a question for which you must write out your answer. After you read each selection, answer the questions about it in the spaces provided in your Student Response Booklet. You may not use a dictionary or any other reference tool during this session.

Read this article about ice fishing in Montana and then answer the questions that follow.

Getting Hooked:
Ice Fishing in Montana

Safety Tips

For anyone who is serious about fishing, Montana is at the top of the list of dream destinations. And even though most anglers only think of Big Sky Country during the warmer months, guess what? All those fish are still here in the winter. Ice fishing can be a perfect getaway, and a true test of skill (if you think it's difficult hooking a fish in the summer, try doing it when the lake's frozen).

Of course, safety is an important consideration when you're ice fishing, for two primary reasons: 1) Ice conditions can change almost as quickly as weather conditions and 2) A cold day can be a heck of a lot colder when you're standing in the middle of a frozen lake without cover. It's only natural then that the first thing you should always do before fishing is check the weather forecast. Make sure you're prepared for changing weather, and bring along essentials such as:

- Extra changes of clothing
- Compass
- Food/Water
- First Aid Kit
- A friend (it's more fun, and much safer)

Learning how to read ice depth is an art developed with practice. However, follow a few pointers to avoid that sinking feeling. Remember that springs, currents, repeated thaws, snow cover and wind can all affect ice depth and strength. Avoid any ice that's less than six inches thick and stay away from edges of open water, springholes, or areas of strong current. While it may seem that deep snow is a good sign, beware: snow is a great insulator, and can actually inhibit ice production. Finally, steer clear of ice that has thawed and refrozen, or ice that is off-colored.

Basic Equipment

Part of ice fishing's great appeal is its simplicity; you won't need to load yourself down with gear to catch fish in Montana during the winter. The basics you'll need are:

- Tip-ups—Essentially, a tip-up is just a short stick that balances on a base; for ice fishing, it's your "pole."

Please go on to the next page.

- Tackle/Bait—You'll of course need basic tackle such as hooks, sinkers, bobbers. Try lures in the basic colors of black, silver, gold, pink and orange. Bait? Well, that's a hotly debated topic among Montana ice fishing fanatics. However, popular choices are salmon eggs, worms, corn and even marshmallows, depending on where you're fishing.
- Ice drill/auger—A good hand auger should be enough to handle most ice fishing situations for you. Most fold or disassemble for easy transport, and are usually available in 5–8 inch diameters.
- Ice skimmer—Once you've augered a hole, a skimmer will help you remove the slush, as well as keep new ice from forming.
- Clothing—Yes, you already knew you'd need to wear clothing. But for ice fishing, take extra care to dress extra warm. You'll be exposed to the elements, and you won't be exerting a lot of energy to keep warm. Well insulated boots are a must. Dress in layers, with a wind/water resistant outer layer.
- Shelter—You certainly don't need a hut or shelter to ice fish, but many prefer it. You can find everything from fold up wind breaks to nylon dome tents to mini bunk houses.

Regulations

To fish Montana's waters, you must have a valid fishing license. And, you need to observe these ice fishing regulations.

Number of Rods/Lines

Two (2) rods and/or lines may be used to fish through ice on all lakes, reservoirs, or ponds in the Western and Central Districts and six (6) rods and/or lines may be used to fish through ice on lakes, reservoirs, and ponds in the Eastern District. See Special Regulations for exceptions.

Size of Hole

The maximum size hole that may be cut for ice fishing is 144 square inches.

There is no limit on the size of hole used for fishing with a spear or gig.

Mark your answers to questions 23 through 27 in the section marked "Reading—Session 2" in your Student Response Booklet.

23. Which statement does the author use to persuade people to ice fish?

    A. "Ice fishing can be a perfect getaway, and a true test of skill."
    B. "Learning how to read ice depth is an art developed with practice."
    C. "To fish Montana's waters, you must have a valid fishing license."
    D. "There is no limit on the size of hole used for fishing with a spear or gig."

24. According to the article, what is the **most** important concern for ice fishers?

    A. equipment
    B. regulations
    C. food
    D. safety

Please go on to the next page.

25. Which item could be used as a "tip-up" for ice fishing?

    A. paper clip
    B. clothespin
    C. tree branch
    D. crushed stone

26. According to the article, which item is **not** essential for ice fishing?

    A. warm clothing
    B. shelter
    C. ice drill
    D. tackle

27. What would **most likely** happen if an angler used four lines to fish through ice in the Central District?

    A. The angler would be fined.
    B. The number of lines would scare fish away.
    C. The ice would break because of the added weight.
    D. The hole would grow larger.

Please go on to the next page.

This story about snow tracks is from the book Woodsong. *Read the story and then answer the questions that follow.*

No Tracks

Gary Paulsen

In new snow there can be no secrets, no mysteries. Everything leaves tracks. It is possible to see
1 where the owl took the mouse when it tried to run across the snow in the night; the perfect pattern of the owl's wing feathers hitting the powder-snow as the bird dropped on the mouse is there.

You can see the intricate necklace-pattern of tracks made by a hunting ermine as it looks for
2 mice, going down into the under-snow cities the mice have in the swamp grass during the winter, then exploding out the top again with the kill, and down again for another one.

3 The tracks are always there, and they always tell the truth.

But once I came on a clearing about forty feet across. Dead in the middle of the clearing a fox had taken a grouse. On cold winter nights and days grouse make small caves in the snow to keep
4 from freezing and if they are caught in the caves they can be taken. It is easy to find the holes they make when they plummet into the snow but very hard to catch them off guard because when they hear the sound of someone or something coming through the snow, they explode up and out in a white cloud.

5 But a fox had taken one in its cave and eaten it. The feathers were there. The tracks of the kill were there.

6 But there were no tracks leading out to the center of the clearing, no fox tracks around the grouse cave. Nothing. No tracks leaving, no tracks coming.

I tied the dogs off to a tree and took the snowshoes from the sled and spent the better part of an hour trying to work it out, moving around in the new snow. There were no fox tracks anywhere
7 in the neighborhood. I moved out in larger and larger circles and could find no fox tracks, no sign that a fox had come from anywhere or gone anywhere. The more I looked the less I could find. There could not have been a fox, simply could not have been one and yet there was.

8 Somehow.

9 One fox. One grouse. In the middle of the clearing and nowhere else on earth. A quick death, a handful of feathers, then nothing.

Mark your answers to questions 28 through 32 in the section marked "Reading—Session 2" in your Student Response Booklet.

28. Based on the story, which statement is true about new snow?

    A. Few animals come out when there is new snow.

    B. Animals do not hunt for food in new snow.

    C. Animals leave tracks in new snow.

    D. Animals cannot adapt to living in new snow.

29. Paragraph 3 says, "The tracks are always there, and they always tell the truth." This sentence is an example of

    A. humor.

    B. flashback.

    C. metaphor.

    D. personification.

Please go on to the next page.

30. Paragraph 4 says, "It is easy to find the holes they make when they plummet into the snow." The word plummet means

A. dive.
B. stumble.
C. race.
D. wander.

31. In paragraph 7, what does the narrator mean when he says, "The more I looked the less I could find"?

A. He became confused by the mystery.
B. He was blinded by the white snow.
C. He was tired of searching for tracks.
D. He lost interest in solving the puzzle.

32. This story is mostly about

A. hunting patterns of owls and ermines.
B. camping in the snow.
C. exploring nature's mysteries.
D. surviving cold winter nights.

Please go on to the next page.

Reading
Session 3

This test session includes reading selections, multiple-choice questions, and a question for which you must write out your answer. After you read each selection, answer the questions about it in the spaces provided in your Student Response Booklet. You may not use a dictionary or any other reference tool during this session.

The Exploratorium is a museum of science and art in San Francisco that publishes an online magazine on the Internet. Read this Web page about the history of words from Exploratorium *magazine and then answer the questions that follow.*

exploratorium magazine online

The Evolution of Languages

Volume 23, Number 1

Try This!
Become a Word Historian

You can use an ordinary dictionary to find extraordinary histories of words. This information is packed between the two brackets [ ] right before the definition of the entry word. (For an even richer experience, explore the venerable twenty-volume **Oxford English Dictionary** with its wealth of detail.)

TO DO AND NOTICE

Look up the word **window**. You'll find that it comes from the Middle English (ME) **windowe**, which came from the Old Norse (ON) **vindauga**, which itself was formed from the two Old Norse words **vindr**, which meant "wind," and **auga**, which meant "eye." So window once meant "wind-eye," a poetic description appropriately suggesting a window's function of letting in both air and light.

Find the history of other words. Look up words you've been curious about, or browse through the dictionary until a word catches your interest. Below are some words that Exploratorium staff members think have interesting histories.

book | poet | handsome | see | money | husband
stop | physics | mathematical

Please go on to the next page.

Here are some helpful tips:

- The earlier forms of a word are given in italics, and their definitions, when different from the meaning of the modern English form, are given in ordinary (roman) type
- Here are some of the dictionary's most common abbreviations:

  OE – Old English, 7th to 12th centuries
  ME – Middle English, 12th to 15th centuries
  ON – Old Norse
  OHG – Old High German
  MF – Middle French
  L – Latin
  Gk – Greek
  Skt – Sanskrit

- The abbreviation **fr** stands for "from" and indicates that a word came from an earlier form. The phrase **akin to** is used before words that are related to the original entry, although they are not its direct ancestors.
- The words **more at** direct you to another dictionary entry where related words will be found.

WHAT'S GOING ON?

Many English words have their origins in other languages. By finding words with similar sounds and meanings in other languages, it's often possible to trace the history of a word back through many centuries. The history of a word, called its **etymology**, is often a good clue to its most essential meaning.

You can find additional explanations about the information in an entry in the front of your dictionary. Enjoy your discoveries!

RESOURCES

The following Web sites are good online resources to use for this project:

Merriam-Webster Dictionary: WWWebster Dictionary

Merriam-Webster Thesaurus: WWWebster Thesaurus

Please go on to the next page.

Mark your answers to questions 46 through 50 in the section marked "Reading—Session 3" in your Student Response Booklet.

46. Which type of information is enclosed between brackets before the definition for an entry word?

    A. a list of words with the same meaning
    B. words with similar sounds
    C. the word's origin
    D. the meaning of the word

47. According to the Web page, what can be found in the front of dictionaries?

    A. earlier forms of words
    B. explanations about word entries
    C. a list of good online resources
    D. the definition of "etymology"

48. Which part of the Web page shows other useful Web sites?

    A. the words in the headings
    B. the words in brackets
    C. the words in parentheses
    D. the words that are underlined

49. The information on this Web page is organized by

    A. listing information in chronological order.
    B. comparing dictionaries and Web pages.
    C. giving information and examples.
    D. showing the causes and effects of changes in words.

50. The **main** purpose of this Web page is to

    A. persuade the reader to use a dictionary.
    B. entertain the reader with interesting information.
    C. inform the reader about word definitions.
    D. teach the reader how to research word history.

Please go on to the next page.

Early in the 1900s huge airships called zeppelins carried passengers and freight between continents. The Graf Zeppelin*, 776 feet long, was one of the most famous of these airships. Read the passage to learn what happened when the* Graf Zeppelin *flew over a small town in Illinois. Then answer the questions that follow.*

Editor's note: In 1929 the *Graf Zeppelin* made a flight around the world. John McCormick, the author of this passage, was eight years old when he learned that the zeppelin was going to pass over a nearby town. His family decided to travel to see the zeppelin, but John volunteered to stay at home with his grandmother. After his family drove away, John regretted his act of generosity.

Out of the Blue

John R. McCormick

I stayed in the yard for an hour or so, building sand castles and trying to forget about the Zeppelin. Time drifted slowly by. In addition to my disappointment, I was a little uneasy. Something wasn't quite right. Suddenly I realized why. We were alone, absolutely alone, and surrounded by a profound silence. That whole land, usually so full of sound and action, was empty and still. Even the animals were quiet. There was no wind, not the slightest breeze.

Into that remarkable silence there came from far away the smallest possible purring, strange and repetitive, gradually approaching, becoming louder —the unmistakable beating of powerful engines. I looked to the west and at first saw nothing. Then it was there, nosing down out of the clouds a half-mile away, a gigantic, wondrous apparition moving slowly through the sky.

"Grandma!" I screamed.

She was out the kitchen door in an instant. I pointed to the sky. The great dirigible was very low, perhaps because the captain was trying to find some landmark.

There is a wonderful opening scene in the movie *Star Wars*. A great starship is passing very low and directly overhead so that one sees only the underside. That underside moves deliberately and interminably on and on and on until at last it is gone. The *Graf Zeppelin*, moving ever so slowly above us, was like that. We saw every crease and contour from nose to fins. It was so low that we could see, or imagined we could see, people waving at us from the slanted windows of its passenger gondola.

We stood entranced. Slowly, slowly the ship moved over us, beyond us, and at last was gone.

We looked at each other, my grandmother and I, then silently walked to the front porch and let ourselves down on the steps. And we gazed at each other in triumph.

Now we were suddenly aware that barnyard, pasture, and field were filled with alarm. The dogs were barking madly, the horses galloped in the pasture, cows mooed, pigs squealed, guineas screamed, chickens cackled, flocks of birds swept wildly by.

"They'll settle down soon," Grandma said.

I was speechless with excitement, but I was already constructing the triumphant tale I would tell anyone who would listen. Grandma rose, went into the kitchen, and came back with two glasses of milk and two chunks of strawberry pie. I could neither eat nor drink. Seeing the Zeppelin was wonderful. Telling the world would be wonderful times ten.

2

Please go on to the next page.

Mark your answers to questions 51 through 55 in the section marked "Reading—Session 3" in your Student Response Booklet.

51. In paragraph 2, what does the word apparition mean?

    A. a fast vehicle
    B. a surprising sight
    C. an invisible presence
    D. a small object

52. What is the **most likely** reason the author mentions the movie *Star Wars*?

    A. to develop a particular mood for the passage
    B. to help the reader imagine what the aircraft looked like
    C. to show that he thought he was seeing a starship
    D. to show his knowledge about airships

53. The information in this passage is organized by

    A. telling things in chronological order.
    B. making comparisons and contrasts.
    C. giving the most important information first.
    D. explaining problems and giving solutions.

54. The **most** important story element in this passage is the

    A. situation between the characters.
    B. description of nature.
    C. use of several settings.
    D. event that the characters experience.

55. Which term **best** describes this passage?

    A. science fiction
    B. autobiography
    C. folktale
    D. mystery

Please go on to the next page.

Read this passage to learn about a woman who helped to make our lives safer, and then answer the questions that follow.

Mary Pennington

Nancy Smiler Levinson

It was a hot summer afternoon in 1884. Twelve-year-old Mary Pennington was reading on the veranda on her brick house in Philadelphia, Pennsylvania. Usually she enjoyed stories, but that day she started reading a chemistry book she had found open in her father's library.

Mary was in the middle of a chapter on oxygen and nitrogen when she was struck with fascination about those two chemical elements. "Suddenly I realized that even though oxygen and nitrogen had no color, taste, or odor, they really existed," Mary remembered years later. The subject of chemistry engaged her so thoroughly that she called that moment of discovery a "milestone" in her life.

She decided to study chemistry, although it was rare for women in those days to receive education beyond basic reading, arithmetic, sewing, and proper manners taught at a school for young ladies.

Despite this, after graduating from a young ladies' school, one day Mary boldly walked into the office of a dean at the University of Pennsylvania in Philadelphia and announced that she wished to enroll in the science department.

The dean paused. Then, to Mary's surprise, he gave his consent. When Mary told her parents, they were shocked. Finally, however, they came to accept the idea, and they gave their daughter full support.

Mary finished all her classes toward a degree, but the university board of trustees refused to grant her one because she was a woman. Her professors, however, declared her a special case and awarded her an advanced Ph.D. degree anyway. Afterward, in 1895, she enrolled at Yale University and studied biological chemistry.

Dr. Mary Pennington then went to work as a bacteriologist. That was at the turn of the century, a time when people often got sick or died from impure milk because there were no laws to ensure sanitary conditions in dairies. Not even ice cream that was sold to children from sidewalk pushcarts was safe!

In laboratories and dairies, Mary tested bacteria toxicity levels and regulated temperature controls in milk processing and storage. Her results and guidelines helped promote the earliest laws that improved the quality and safety of milk production throughout the country.

Later, Mary was hired by the U.S. Department of Agriculture, where she supervised fifty-five men in experiments with fish and poultry skinning, scaling, packing, and deep-freezing methods. Her work there became the basis for further improved health standards.

Mary then turned her attention to a problem on the railroads—keeping perishable foods fresh on refrigerator cars. Rails were the link between the nation's farms and its people. And the people liked variety when they sat down to eat. They wanted fresh meats, poultry, and fish, firm fruit, and crisp salads. But how long could such food last as it rolled across the country before the lettuce wilted and the meat turned to rot?

. . . The earliest refrigerator cars were designed with air ventilation openings for cooling. Then came compartments that were filled and refilled with ice, which was better than air ventilation as a coolant, but still not wholly satisfactory.

How was this kind of puzzle to be solved? Certainly not in a laboratory! There was only one thing for Mary to do. She climbed aboard a train, set up equipment in a test car that was coupled between a refrigerator car and the caboose, and rode the rails tens of thousands of miles. Using gauges that

Please go on to the next page.

determined temperature and humidity, she tested foods under all kinds of conditions and in all kinds of weather—from winters in Maine to scorching summers in the Imperial Valley of California. She investigated ice bunkers, insulation, temperature control, food packing, loading, and warehousing.

In particular, she noted that insulation was too thin, and cracks in the cars caused the insulation to loosen altogether. The most dangerous condition of all, she reported, came from water that dripped on the floors. In that water and in the moist air above, bacteria grew and settled on the foods. Some of that bacteria caused deadly illnesses.

Mary redesigned refrigerator cars with added insulation in ice bunkers, walls, floors, and racks. She also designed a forced-air system to give maximum air circulation throughout each car. This was the best solution for that time, and new refrigerator cars were a marked improvement for railroad food preservation and for the health and safety of the American people. But for years, railroad officials stubbornly resisted making the suggested changes. Changes would cost money, and they didn't want to spend any more than necessary. Mary fought long and hard until she finally convinced railroad owners to take the right action.

Through her continued work, Dr. Mary Pennington set standards that helped direct food processing, refrigeration, and storage methods. Her standards and regulations governed much of the United States food industry for years to come.

Mark your answers to questions 56 through 66 in the section marked "Reading—Session 3" in your Student Response Booklet.

56. In paragraph 2, the author writes that Mary Pennington considered reading the chemistry book a "milestone" in her life. What does this mean?

    A. Reading the book changed her life.
    B. She found the book very difficult to read.
    C. She had always enjoyed reading books about chemistry.
    D. Reading the book was a typical thing for her to do.

57. What is the **main** reason the author provides background information on women's education in the 1800s?

    A. to make a contrast between the 1800s and the present
    B. to show that Pennington's experience was unusual for that time
    C. to explain why Pennington knew so little about chemistry
    D. to help the reader imagine what it was like to live in the 1800s

Please go on to the next page.

58. The author uses an exclamation point at the end of paragraph 7 **most likely** to

A. show how serious the problem of food safety was in the 1800s.
B. describe how Pennington felt about the problem of food safety.
C. show that the author is giving an opinion.
D. describe Pennington's feelings about ice cream sold from pushcarts.

59. When Pennington began her work, what was the **major** problem in the United States food industry?

A. There were no laws to ensure food quality and safety.
B. People did not understand that bacteria could cause disease.
C. There was no way to make food last a long time.
D. Scientists were not interested in finding out why food spoiled.

60. What was unusual about how Pennington was able to solve the puzzle about refrigerator cars?

A. She knew little about railroads when she started.
B. She faced opposition from the railroad owners.
C. She used gauges to measure temperature and humidity.
D. She decided to actually work aboard trains.

61. In paragraph 10, the word <u>perishable</u> means food that

A. costs a lot of money.
B. does not have a lot of variety.
C. does not last a long time.
D. comes from a particular area.

62. Pennington's work was **most** important because it

A. saved companies a lot of money.
B. protected the health of consumers.
C. helped in the design of new railroad cars.
D. showed how spoiled food made people sick.

63. How is the information in this passage organized?

A. in chronological order
B. in order of importance
C. as a series of comparisons and contrasts
D. as a series of reasons supporting a conclusion

Please go on to the next page.

64. The **main** purpose of this passage is to

A. show how refrigerator cars work.
B. explain the history of the railroad.
C. describe the work of a famous scientist.
D. compare education in the past and today.

65. Which word **best** describes this passage?

A. historical fiction
B. biography
C. technical writing
D. autobiography

66. You are preparing a report on the contributions of people like Pennington. Which of the following books would give you the **best** information for your report?

A. a biography of a famous woman
B. a science textbook
C. a history of education
D. a book on scientific contributions

Write your answer to question 67 in the space provided for it in your Student Response Booklet.

67. How does the author keep the reader's interest throughout the passage? Use examples from the passage to support your answer.

Please STOP. Do not go on to the next page.

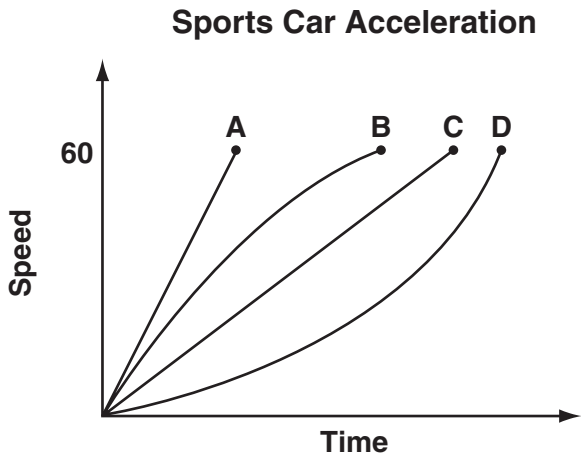
NO TEST MATERIAL
ON THIS PAGE

Mathematics
Session 1 (Calculator)

This test session includes multiple-choice questions and a question for which you must show your work or write out your answer. You may use a calculator during this session.

Mark your answers to questions 1 through 24 in the section marked "Mathematics—Session 1 (Calculator)" in your Student Response Booklet.

1. A magazine article described how long it took four sports cars to go from a speed of 0 mph to 60 mph. This graph was included in the article.



Which car's speed increased from 0 mph to 60 mph at the fastest rate?

A. car A
B. car B
C. car C
D. car D

2. It took Janice 14 minutes and 48 seconds to run 2 miles. Which estimate is best for Janice's speed in miles per hour?

A. 0.1 mile per hour
B. 0.5 mile per hour
C. 8 miles per hour
D. 10 miles per hour

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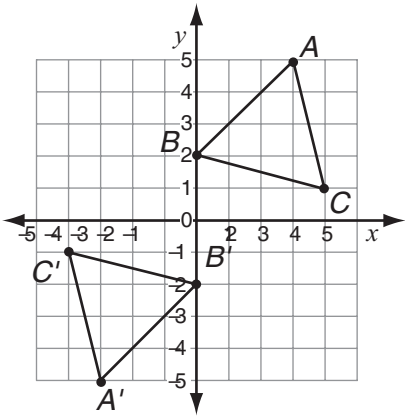
3. Triangle ABC was transformed into triangle $A'B'C'$ as shown on the grid below.



Which transformation was used to make triangle $A'B'C'$?

A. a reflection across the x-axis

B. a reflection across the y-axis

C. a counterclockwise rotation 90 degrees about the origin

D. a clockwise rotation 180 degrees about the origin

4. Kayla swam 10 laps in 6 minutes. Each lap measures 150 feet. At this speed, about how long would it take her to swim a mile?

A. 2 minutes

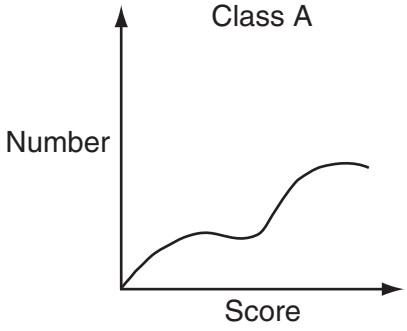
B. 20 minutes

C. 200 minutes

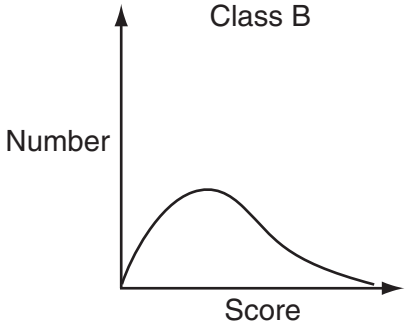
D. 250 minutes

5. Which graph shows test score data in which the mean and median are equal?

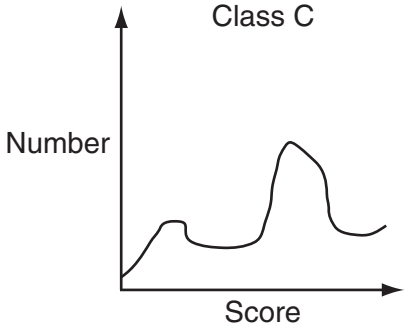
A.



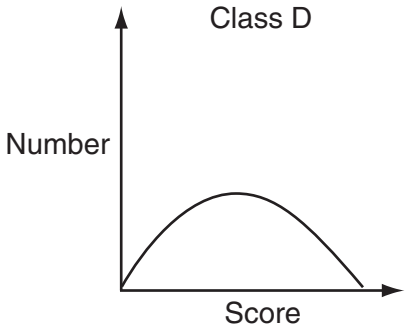
B.



C.



D.



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6. Look at the equation below.

$$\frac{x}{y} = q$$

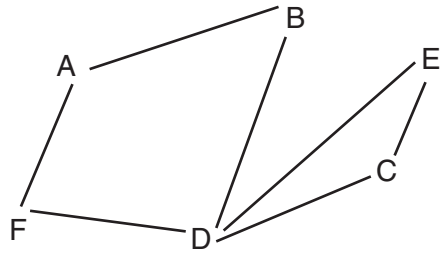
If x and y are negative integers and $x < y$, which statement is **always** true?

A. $q > 0$
B. $q < x$
C. $x < q < y$
D. $y < q < 0$

7. Dolly is using a 5-quart pail to fill a 15-gallon fish tank. How many times will she need to fill the pail?

A. 3.75
B. 6
C. 9.5
D. 12

8. Mr. Lee made the network below to show which chemicals can be stored in the same cabinet. He drew a line segment between any chemicals that could safely be stored together.



If there is no path between two chemicals, they cannot be stored together. What is the fewest number of cabinets needed to safely store the chemicals?

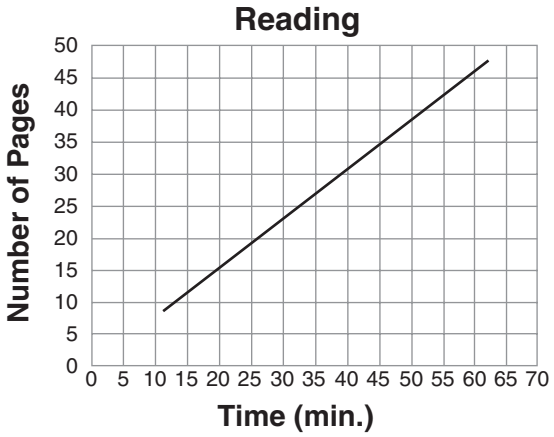
A. 2
B. 3
C. 4
D. 5

9. Which shapes are always similar to each other?

A. isosceles trapezoids
B. rectangles
C. right triangles
D. squares

Please go on to the next page.

10. Carl investigated the relationship between the amount of time a person reads and the number of pages the person reads. The graph below shows his results.



Which table of values matches the graph?

A.

Time (min.)	Pages Read
10	11
20	14
40	30
60	75

B.

Time (min.)	Pages Read
11	10
14	20
30	40
75	60

C.

Time (min.)	Pages Read
12	8
27	21
46	36
63	47

D.

Time (min.)	Pages Read
8	12
21	29
34	46
47	63

11. Members of the eighth-grade class are selecting two colors for decorations. They have 8 different colors to choose from. How many different 2-color choices are possible?

A. 16
B. 28
C. 56
D. 64

12. If three angles of a quadrilateral are acute, the fourth angle must be

A. straight.
B. right.
C. acute.
D. obtuse.

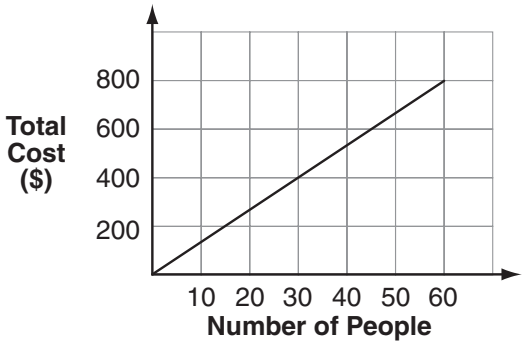
13. A cylinder-shaped tank stores water. The tank has a diameter of 20 feet and a height of 40 feet. About how many gallons of water can it hold? (1 cubic foot = 7.481 gallons)

A. 1,700 gallons
B. 6,700 gallons
C. 94,000 gallons
D. 376,800 gallons

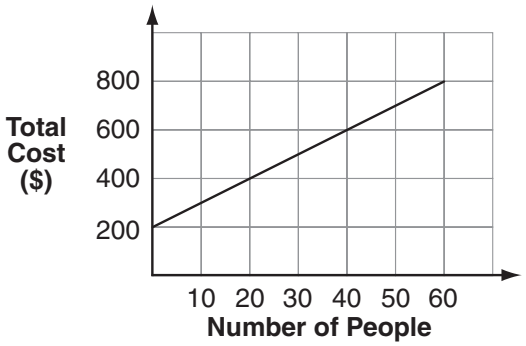
Please go on to the next page.

14. Agnes runs a catering business. She charges a flat fee of $200 per dinner party plus $10 per dinner quest. Which graph represents the relationship between the number of people and the total cost?

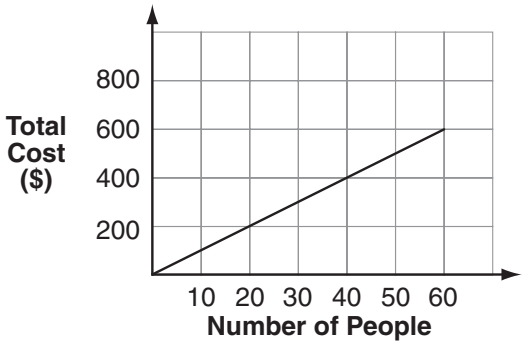
A.



B.



C.



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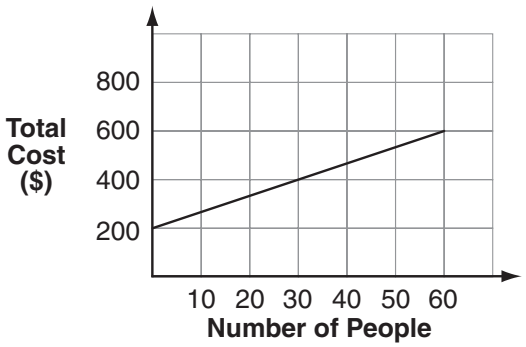
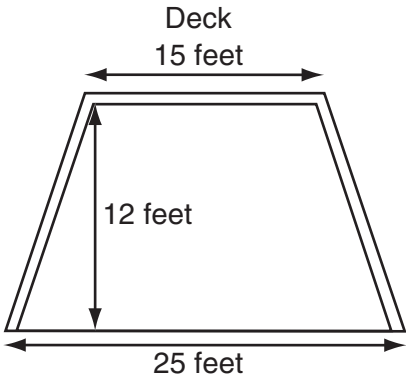


15. Hector is building a deck on one side of his house. The dimensions of the deck are shown below.



About how many square yards of carpeting are needed to cover the floor of the deck?

A. 20 square yards
B. 27 square yards
C. 34 square yards
D. 54 square yards

16. Janice draws the net (pattern) of a hexagonal prism. What is the total number of faces and bases she will draw?

A. 6
B. 7
C. 8
D. 9

Please go on to the next page.

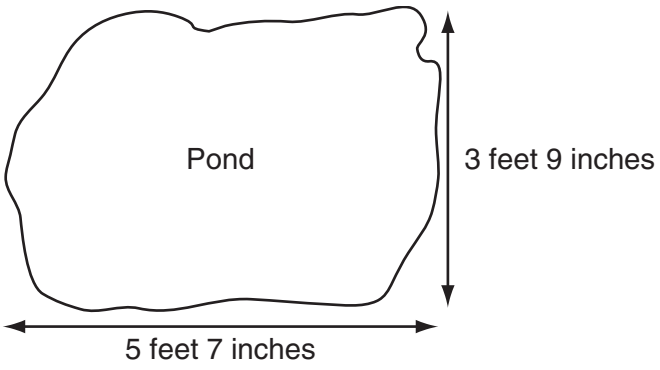
17. Mr. Todd is trying to lower his sodium intake to 2.5 grams per day. For lunch he ate a ham and cheese sandwich.

- The bread contained 300 milligrams of sodium,
- the ham contained 600 milligrams of sodium, and
- the cheese contained 270 milligrams of sodium.

What is the maximum number of milligrams of sodium he can eat for the remainder of the day and stay within his limit?

A. 133 milligrams
B. 1,330 milligrams
C. 2,383 milligrams
D. 23,830 milligrams

18. Dakota is making this pond in his backyard.



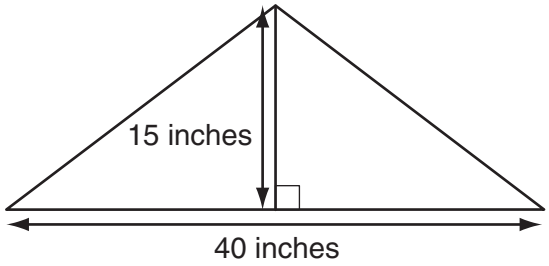
The pond will be 18 inches deep. About how much water will Dakota need to fill the pond?

A. 30 cubic feet
B. 80 cubic feet
C. 120 cubic feet
D. 430 cubic feet

19. Maria has a picture that is 15 inches wide and 20 inches long. She is reducing the size of the picture to fit in a brochure. Which dimensions could the reduced picture have and still be **similar** to the original picture?

A. 2 inches by 3 inches
B. 4 inches by 5 inches
C. 6 inches by 8 inches
D. 10 inches by 15 inches

20. The triangle below is isosceles.



What is the perimeter of the triangle?

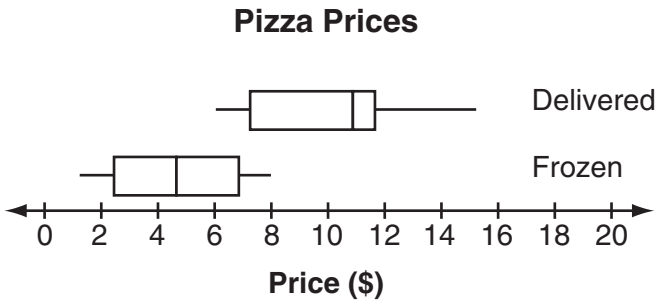
A. 35 inches
B. 90 inches
C. 105 inches
D. 300 inches

Please go on to the next page.

21. John filled his car's 12-gallon tank with gas. He used $\frac{1}{4}$ of the tank of gas to drive 78 miles. How many miles per gallon did his car get on the trip?

A. 6.5 miles per gallon
B. 12.25 miles per gallon
C. 19.5 miles per gallon
D. 26 miles per gallon

22. The editors of *Family Budget* magazine wrote an article comparing the prices of frozen pizzas with the prices of delivered pizzas. They included this box-and-whisker plot with the article.



Based on the box-and-whisker plot, which statement must be true?

A. The median price of frozen pizzas is less than all of the prices of the delivered pizzas.
B. The mean price of frozen pizzas is less than all of the prices of the delivered pizzas.
C. The range of prices of frozen pizzas is greater than the range of prices of delivered pizzas.
D. All frozen pizzas are less expensive than all of the delivered pizzas.

23. Casey uses the following equation to convert temperature from Celsius to Fahrenheit.

$$C = \frac{5}{9}(F - 32)$$

Using a Celsius thermometer, he records the temperature of a solution as 29°C. To the nearest tenth, what is this temperature in degrees Fahrenheit?

A. –5.4
B. 48.1
C. 84.2
D. 109.8

24. Anton made the chart below to show the amount of money he charges for doing yard work.

Yard Work

Hours Worked	Amount Charged
1	$ 8.50
2	$11.00
3	$13.50
4	$16.00
5	$18.50

The amount he charges for yard work includes $6 for supplies plus an hourly rate for labor. If he increases the charge for supplies by 50%, how will the total amount of money he charges for yard work change?

A. It will increase by $3.00.
B. It will increase by $2.50.
C. It will increase by 150%.
D. It will increase by 50%.

Please go on to the next page.

Write your answer to question 25 in the space provided for it in your Student Response Booklet. Show all of your work.

25. The drama club put on a play on Friday night. They sold some tickets in advance and some tickets at the door. A total of 300 tickets were sold.

    a. Using x to represent the number of tickets sold in advance, write an expression that represents the number of tickets sold at the door.

    The club charged \$3 for tickets sold in advance and \$4 for tickets sold at the door. The total amount of money collected from tickets was \$1072.

    b. Again using x to represent the number of tickets sold in advance, write one equation that can be used to find the number of \$3 tickets and the number of \$4 tickets sold. Your equation should contain no variables except x.

    c. How many \$3 tickets and how many \$4 tickets were sold? Show your work or explain how you found your answer.

Please STOP. Do not go on to the next page.

Mathematics
Session 2A (Calculator)

This test session includes multiple-choice questions and a question for which you must show your work or write out your answer. You may use a calculator during this session.

Mark your answers to questions 26 through 33 in the section marked "Mathematics—Session 2A (Calculator)" in your Student Response Booklet.

26. Kim is planning to paint her room. Which unit of measurement should she use to determine the amount of wall space she will need to cover?

    A. meter
    B. cubic meter
    C. foot
    D. square foot

27. The weather person reports that the temperature is 3 degrees below zero. Based on current weather conditions, she forecasts that the temperature will drop 8 degrees overnight. Which expression could be used to calculate the forecasted morning temperature?

    A. $3 - 8$
    B. $3 + (-8)$
    C. $-3 - 8$
    D. $-3 - (-8)$

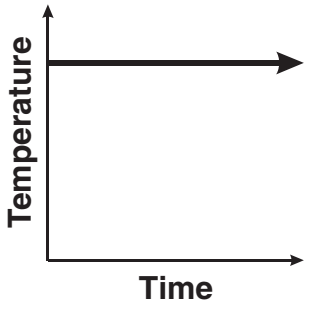
28. Which expression is equivalent to $\frac{6x}{12}$?

    A. $\frac{12}{6x}$
    B. $\frac{x}{2}$
    C. $\frac{1}{2}$
    D. $2x$

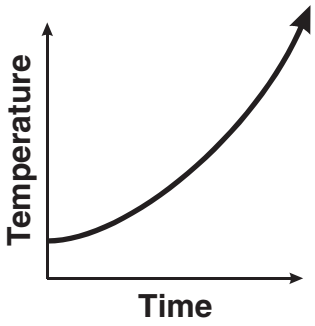
Please go on to the next page.

29. Which graph shows the temperature increasing at a constant rate?

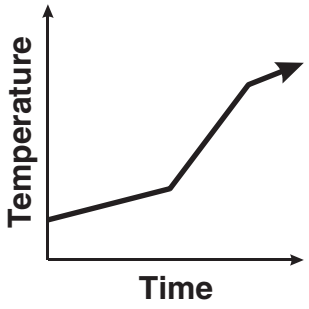
A.



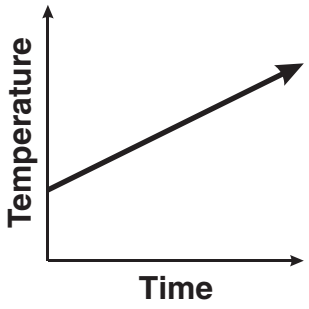
B.



C.



D.



30. The mean salary at Design Associates is $42,000. The median salary is $28,000. Two new employees will be hired at a salary of $30,000 each. Which statement **must be** true?

A. The mean will decrease.

B. The mean will increase.

C. The median will decrease.

D. The median will increase.

Please go on to the next page.

Mathematics
Session 2B (No Calculator)

This test session includes multiple-choice questions and questions for which you must show your work or write out your answer. You may NOT use a calculator during this session.

Mark your answers to questions 35 through 41 in the section marked "Mathematics—Session 2B (No Calculator)" in your Student Response Booklet.

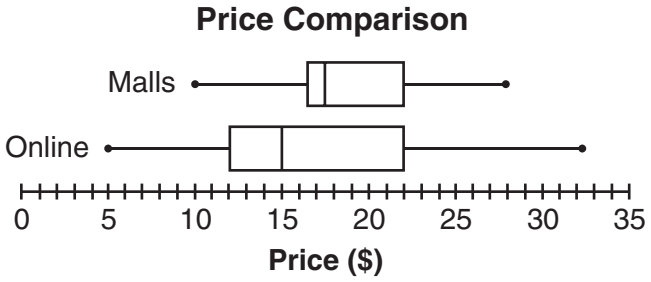
35. Four students drew straws. The student who drew the longest straw won a free compact disc.

Name	Length (centimeters)
Anderson	9.9
Benson	9.375
Larson	9.95
Nelson	9.925

Who drew the longest straw?

A. Anderson
B. Benson
C. Larson
D. Nelson

36. Jason compared prices for a game at online stores and at stores in shopping malls. He made box-and-whisker plots of the prices.



All of the following statements are justified by the plots **except for** which one?

A. The game is always cheaper online.
B. Price differences are less at the mall than online.
C. The lowest price was at an online store.
D. The price was $22 or less at about 75% of both the mall stores and the online stores.

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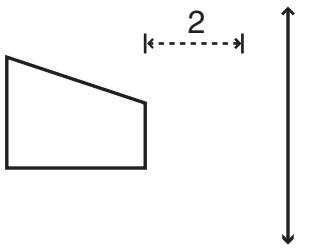
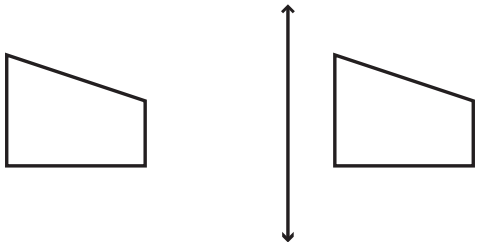
37. The polygon shown below is translated two units to the right and then reflected over the line.

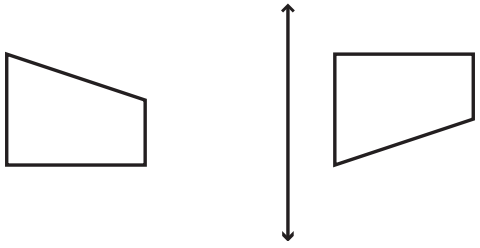


Which figure shows the original polygon and its image after the transformations have been completed?

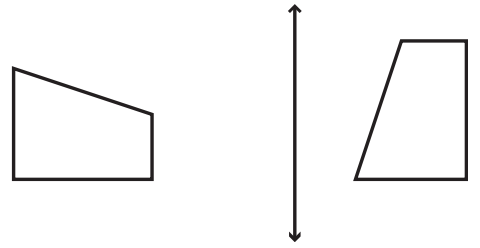
A.



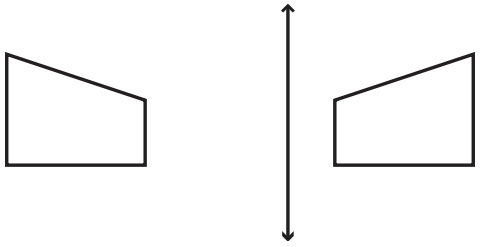
B.



C.



D.



38. Kelly and Jerry both drew triangles with angle measures of 40°, 60°, and 80°. Which statement must be true?

A. The two triangles are congruent.

B. The two triangles are similar but may not be congruent.

C. The two triangles do not have to be similar, but they might be congruent.

D. The two triangles cannot be congruent or similar.

39. The table below shows a relationship between x and y.

x	*y*
0	2
1	6
2	18
3	54
4	162
5	486
6	1458
7	4374

Which digit is in the ones place of y when $x = 21$?

A. 2

B. 4

C. 6

D. 8

Please go on to the next page.

Mathematics
Session 3 (No Calculator)

This test session includes multiple-choice questions and questions for which you must show your work or write out your answer. You may NOT use a calculator during this session.

Mark your answers to questions 44 through 64 in the section marked "Mathematics—Session 3 (No Calculator)" in your Student Response Booklet.

44. Anna made four different plans to save money for a new bike. Which plan shows a linear relationship between the month and the total savings?

A.

Month	Savings
1	$10
2	$20
3	$40
4	$60
5	$80

B.

Month	Savings
1	$10
2	$15
3	$25
4	$40
5	$60

C.

Month	Savings
1	$10
2	$20
3	$30
4	$40
5	$50

D.

Month	Savings
1	$ 10
2	$ 20
3	$ 40
4	$ 70
5	$110

45. A nanometer is equal to 10^{-9} meters. Which fraction is equivalent to 10^{-9} ?

A. $\frac{1}{10,000,000,000}$

B. $\frac{1}{1,000,000,000}$

C. $\frac{1}{100,000,000}$

D. $\frac{1}{10,000,000}$

46. Which statement is true?

A. $3 \times 1.79 = (3 + 1) + (3 + 0.79)$

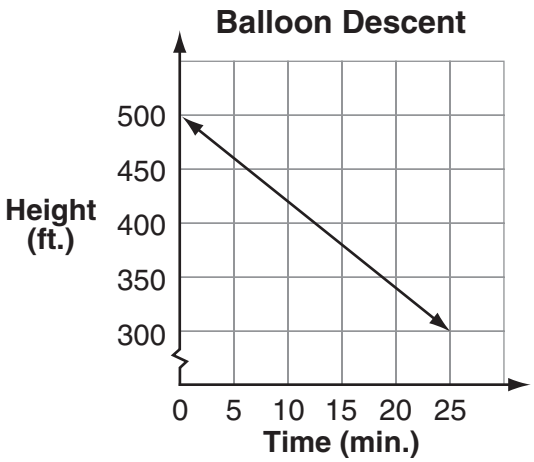
B. $3 \times 1.79 = (3 \times 1) - (3 \times 0.79)$

C. $3 \times 1.79 = (3 + 1) \times (3 + 0.79)$

D. $3 \times 1.79 = (3 \times 1) + (3 \times 0.79)$

Please go on to the next page.

47. Carlos is in a hot air balloon. The graph below shows the height of the balloon as it descends over time.



What is the slope of the line?

A. –8

B. $-\frac{1}{8}$

C. $\frac{1}{8}$

D. 8

48. Look at the expression below.

$$40r + 1.5r(h - 40)$$

What is the simplest form of this expression?

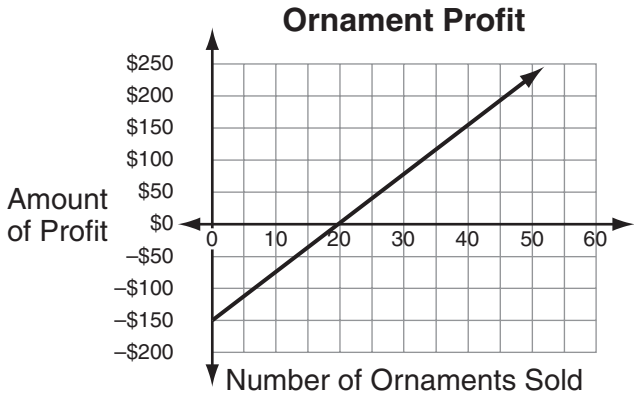
A. $18.5rh$

B. $1.5rh + 20r$

C. $40r + 1.5rh - 40$

D. $1.5rh - 20r$

49. Cheyenne is taking a business class. She must prepare a business plan for her final project. Cheyenne's business is selling ornaments that she has made. She included this graph in her report:



What does the slope represent in the graph?

A. the rate of profit for the number of ornaments sold

B. the price of each ornament

C. the cost of making each ornament

D. the amount lost when fewer than 20 ornaments are sold

50. On a coordinate grid, $PQRS$ is a rectangle.

- Point P is located at (2, 3).
- The length of side $\overline{PQ}$ is 5.
- The length of side $\overline{QR}$ is 6.

Which could be the coordinates of point R?

A. (2, 9)

B. (5, 6)

C. (7, 3)

D. (7, 9)

Please go on to the next page.

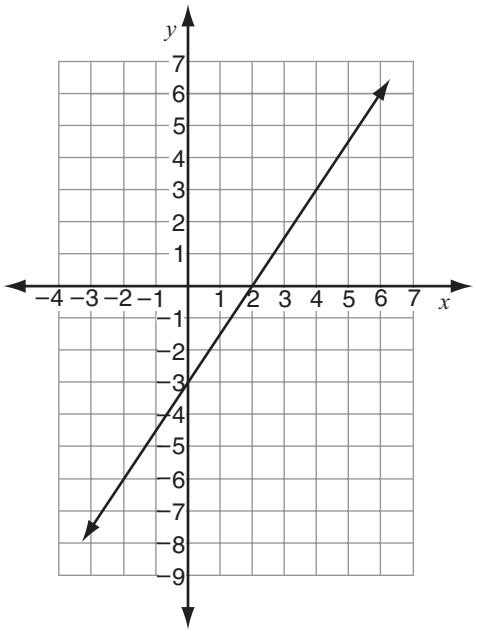
51. A news announcer announced the results of a survey that had an error rate of $\pm\frac{1}{2}\%$. Which decimal is equivalent to $\frac{1}{2}\%$?

A. 0.002
B. 0.005
C. 0.02
D. 0.05

52. The manager of Down Town Movie Rentals wants to put together a list of his customers' top 10 favorite movies. Which sample will **best** represent his customer population?

A. Survey 100 customers who come into the store on Monday.
B. Survey the first 100 customers who ask whether they may complete the survey.
C. Survey 100 customers who have a Down Town Movie Savers Card.
D. Survey 100 customers over a two-week period.

53. A line is graphed on the coordinate plane below.



What is the equation of the line?

A. $y = x - 3$
B. $y = 3 - x$
C. $y = \frac{3}{2}x - 3$
D. $y = 3 - \frac{3}{2}x$

54. The radius of Circle P is 10 times greater than the radius of Circle M. How many times greater is the area of Circle P than the area of Circle M?

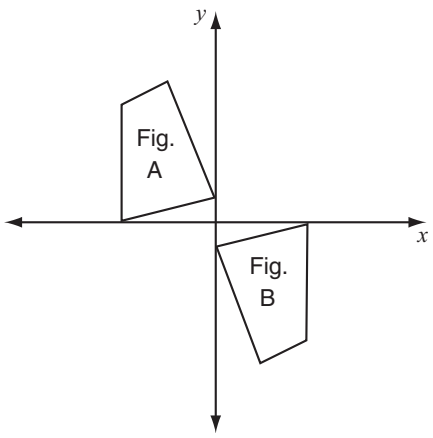
A. 5 times greater
B. 10 times greater
C. 20 times greater
D. 100 times greater

Please go on to the next page.

55. The population of Denton increased from 3,296 in 1990 to 3,472 in 2000. Which percentage is the **best** estimate of the population increase?

A. 1%
B. 5%
C. 10%
D. 20%

56. Figure B was created by rotating Figure A 180 degrees as shown below.



Which two transformations of Figure A would result in the same Figure B?

A. a reflection across the *y*-axis and a reflection across the *x*-axis
B. a reflection across the *y*-axis and a translation across the *x*-axis
C. a translation across the *y*-axis and a reflection across the *x*-axis
D. a translation across the *y*-axis and a translation across the *x*-axis

57. Students at Pine Ridge School have $52 to buy an engraved plaque for their school. The price of the plaque is $30 plus the cost of engraving, $0.50 per letter. Which inequality can be used to determine the number of letters, l, that can be engraved on the plaque?

A. $30 + 0.50l < \$52$
B. $30 + 0.50l \leq \$52$
C. $30 + 0.50l > \$52$
D. $30 + 0.50l \geq \$52$

58. A cafeteria manager asked 200 students about their lunch choices. The results of the survey are shown below.

Cafeteria Survey

Grade	Hot Lunch	Cold Lunch	No Lunch
6	20	25	5
7	28	15	7
8	17	30	3
9	21	23	6

Nancy eats cold lunch every day. What is the probability that she is in grade 6?

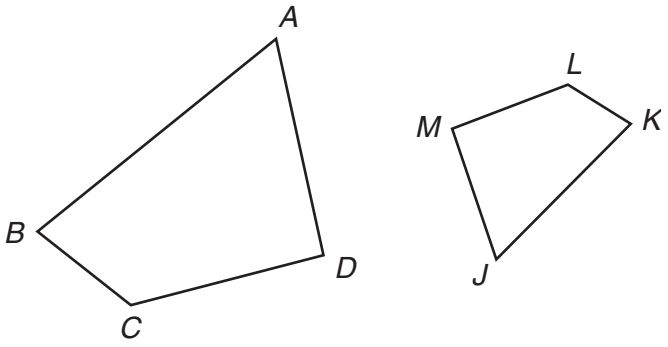
A. $\frac{25}{200}$
B. $\frac{50}{200}$
C. $\frac{25}{93}$
D. $\frac{25}{50}$

Please go on to the next page.

59. An engineer inspects cars as they come through an assembly line. The body of every 6th car is inspected, the engine of every 8th car is inspected, and the paint on every 10th car is inspected. Which car will be the first to have its body, engine, and paint inspected?

A. the 80th car
B. the 120th car
C. the 240th car
D. the 480th car

60. The two figures below are similar.



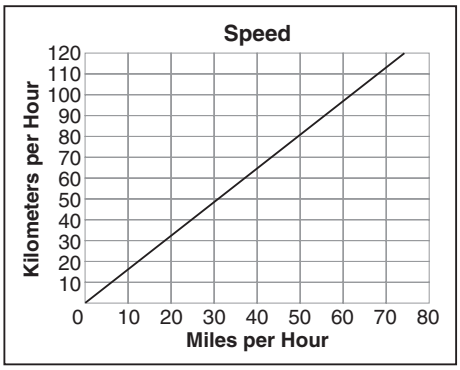
Which side of the smaller figure corresponds to $\overline{AD}$?

A. $\overline{JM}$
B. $\overline{JK}$
C. $\overline{KL}$
D. $\overline{LM}$

61. Victor bought a pair of shoes that sold for 25% off the regular price of $24. Which expression represents the sale price of the shoes?

A. 0.25(24)
B. 0.75(24)
C. 24 – 0.75(24)
D. 0.75(24) – 0.25(24)

62. The graph below shows the speed of different animals in both miles per hour and kilometers per hour.



A dragonfly can fly at a speed of 18 miles per hour. Which of the following is the best estimate for this speed in kilometers per hour?

A. 10 kilometers per hour
B. 21 kilometers per hour
C. 28 kilometers per hour
D. 35 kilometers per hour

Please go on to the next page.

63. Kenzie has 10 quiz scores for this quarter. The lowest score is 35%, the highest score is 98%, the mean score is 67%, and the median score is 82%. Her teacher will let all of the students drop their lowest score. Which statement is true?

A. The mean will change the most by dropping the lowest score.

B. The median will change the most by dropping the lowest score.

C. The mean and median will both increase by the same amount.

D. The mean and median will not be changed by dropping the lowest score.

64. A figure is translated 2 units to the left and 4 units up on a coordinate plane. Which ordered pair is the image of the point (x, y) using this translation?

A. $(x + 2, y + 4)$

B. $(x + 2, y - 4)$

C. $(x - 2, y + 4)$

D. $(x - 2, y - 4)$

Write your answers to questions 65 through 67 in the spaces provided in your Student Response Booklet. Show all of your work.

65. 92 is 115% of what number?

66. Solve for x.

$$3x + 5(7 - x) = 0$$

67. What is the value of the expression below?

$$12 \div \frac{1}{4} \times 8 - (-3)^2$$

Please go on to the next page.

Write your answer to question 68 in the space provided for it in your Student Response Booklet. Show all of your work.

68. Trisha surveyed 28 of her classmates by asking them to list the activities in which they participate in the summer. This table shows the results.

Summer Activities

Activity	Percent of Students
Read	75%
Play sports	21%
Visit friends	33%

a. On the grid in your Student Response Booklet, make a bar graph of these data.

b. Trisha wanted to make a circle graph to display her results. Explain why a circle graph would not be a good choice for these data.

c. What is a question that Trisha could have asked about summer activities so that the results could be displayed in a circle graph?

Please STOP. STOP